ZEITSCHRIFT FÜR PFLANZENPHYSIOLOGIE

Herausgegeben von

H. Beevers, Santa Cruz, Kalifornien, USA · P. Halldal, Oslo, Norwegen W. Haupt, Erlangen · D. Hess, Stuttgart-Hohenheim · O. Kandler, München · F. Lynen, München · H. Reznik, Köln · H. R. Schütte, Halle/Saale P. Sitte, Freiburg i. Br. · J. Straub, Köln · S. J. Wellensiek, Wageningen, Niederlande · C. P. Whittingham, Harpenden, Herts., Großbritannien M. H. Zenk, Bochum

Schriftleitung

D. Hess, Stuttgart-Hohenheim

Band 73



GUSTAV FISCHER VERLAG · STUTTGART
1974

© Gustav Fischer Verlag Stuttgart 1974 Alle Rechte vorbehalten A. Oelschlägersche Buchdruckerei GmbH, Calw Printed in Germany

Inhalt

Review	
NAGL, W.: The <i>Phaseolus</i> Suspensor and its Polytene Chromosomes	
Originalarbeiten	
BARLOW, P. W. and M. GRUNDWAG: The Development of Amyloplasts in Cells of the Quiescent Centre of Zea Roots in Response to Removal of the Root Cap	56
Capesius, I.: Wirkung von FdUrd auf die Neusynthese von Nucleinsäuren während des Sukkulenzwachstums bei <i>Lobularia maritima</i> The Influence of FdUrd on the <i>de novo</i> Synthesis of Nucleic Acids Accompanying Growth of <i>Lobularia maritima</i>	
CERFF, R.: Inhibitor-dependent, Reciprocal Changes in the Activities of Glyceraldehyde 3-Phosphate Dehydrogenases in Sinapsis alba Cotyledons	
CHARRIERE-LADREIX, Y.: Caractères de L'Accumulation Flavonique dans les Tissus des Organes Sécréteurs des Bourgeons d'Aesculus hippocastanum L	95
DE JONG, A. W. and J. Bruinsma: Pistil Development in Cleome Flowers. III. Effects of Growth-Regulating Substances on Flower Buds of Cleome iberidella Welw. ex Oliv. Grown in vitro	
DE JONG, A. W. and J. Bruinsma: Pistil Development in Cleome Flowers. IV. Effects of Growth-Regulating Substances on Female Abortion in Cleome spinosa Jacq	
Devidé, Z. and N. Ljubesić: The Reversion of Chromoplasts to Chloroplasts in Pumpkin Fruits	296
Döhler, G.: Photosynthetische Carboxylierungsreaktionen synchron kultivierter Chlorella vulgaris	202
Photosynthetic Pathway in Synchronized Chlorella vulgaris	
GRESSHOFF, P. M. and C. H. Doy: Derivation of a Haploid Cell Line from Vitis vini- fera and the Importance of the Stage of Meiotic Development of Anthers for Haploid Culture of this and other Genera	132
GRISHINA, G. S., S. MALESZEWSKI, A. FRANKIEWICZ, N. P. VOSKRESENSKAYA and J. POSKUTA: Comparative Study of the Effects of Red and Blue Light on ¹⁴ CO ₂ Uptake	
and Carbon Metabolism of Maize Leaves in Air and Oxygen	
HERM, K. und M. TEVINI: Die Wirkung von Rotlicht auf die Synthese der Glyko- und Phospholipide bei der Keimung von Hordeum vulgare The Influence of Red Light on the Synthesis of Glyco- and Phospholipids during Germination of Barley (Hordeum vulgare)	
HOOYMANS, J. J. M.: Role of Cell Compartments in the Redistribution of K and Na Ions Absorbed by the Roots of Intact Barley Plants	
HOVENKAMP-OBBEMA, R. and D. STEGWEE: Effect of Chloramphenicol on the Development of Proplastids in <i>Euglena gracilis</i> . I. The Synthesis of Rubulosediphosphate Cyrloxylase, NADP-linked Glyceraldehyde-3-phosphate Dehydrogenase and Amino-	
laevulinate Dehydratase	430

in Euglena gracilis. II. The Synthesis of Carotenoids	439
Huber, W. and N. Sankhla: Abscisic Acid — Kinetin Interaction in Growth and Activities of Enzymes of Amino-acid Metabolism in <i>Pennisetum typhoides</i> Seedlings	160
Kamínek, M. and J. Luštinec: Reduced Chlorophyll Synthesis in Cytokinin-Autonomous Strains of Tobacco Callus	65
Kamínek, M. and J. Luštinec: Induction of Cytokinin-Autonomy and Chlorophyll- Deficiency in Tobaco Callus Tissue by Streptomycin	74
Kass, L. B. and D. J. PAOLILLO, jr.: The Effect of Darkness and Inhibitors of Protein Synthesis on the Replication of Chloroplasts in the Moss <i>Polytrichum</i>	198
KOCHBA, J. and J. BUTTON: The Stimulation of Embryogenesis and Embryoid Development in Habituated Ovular Callus from the «Shamouti» Orange (Citrus sinensis) as Affected by Tissue Age and Sucrose Concentration	415
LÜTTGE, U. and E. BALL: Mineral Ion Fluxes in Slices of Acidified and De-acidified Leafes of the CAM Plant Bryophyllum daigremontianum	339
LÜTTGE, U. and E. Ball: Proton and Malate Fluxes in Cells of Bryophyllum daigremontianum Leaf Slices in Relation to Potential Osmotic Pressure of the Medium	326
MASLOWSKI, P., H. MASLOWSKA and T. URBAŃSKI: Correlation between Changes in Ion Stimulated ATP-ase Activity and Protein Content in <i>Phaseolus vulgaris</i> Cotyledon Tissue during Germination	119
MIX, G. und H. MARSCHNER: Mineralstoffverteilung zwischen Chloroplasten und übrigem Blattgewebe Distribution of Mineral Elements between Chloroplasts and the Remaining Leaf Tissue	
NIMZ, H., HD. LÜDEMANN und H. BECKER: Kohlenstoff-13-Kernresonanzspektren von Ligninen. 4. Die Lignine der europäischen Mistel (Viscum album L.) Carbon-13-NMR spectra of lignins. 4. Lignins of the European mistletoe (Viscum album L.)	
Penot, M.: Ionic Exchange between Tissues of Ascophyllum nodosum (L.) le Jolis and Polysiphonia lanosa (L.) Tandy	
PILLAY, D. T. N. and J. H. CHERRY: The Fractionation of Soybean Cotyledon Transfer Ribonucleic Acids on benzoylated DEAE Columns	
Poskuta, J., M. Mikulska, M. Faltynowicz, B. Bielak and B. Wróblewska: The Effect of Oxygen Concentration on the Development of Photosynthetic Capacity by Etiolated Bean Seedlings upon Illumination	
REBECHINI, H. M. and L. HANZELY: Lead-induced Ultrastructural Changes in Chloroplasts of the Hydrophyte, Ceratophyllum demersum	
ROGAN, P. G. and D. L. SMITH: Patterns of Translocation of ¹⁴ C-labelled Assimilates during Vegetative Growth of Agropyron repens (L.) BEAUV.	
RUFFNER, H. P. und D. RAST: Die Biogenese von Tartrat in der Weinrebe The Biogenesis of Tartaric Acid in the Grapevine	45
Schletz, K.: Einfluß der relativen Konzentration von Nitrat und Ammonium auf die Entwicklung des pH-Wertes in einigen Nährmedien für <i>Volvox aureus</i> The Effect of Different [NO ₃ ⁻]/[NH ₄ ⁺]-Ratios on the pH in Some Culture Media for <i>Volvox aureus</i>	
SEIDLOVÁ, F.: Changes of Growth and RNA Synthesis in Shoot Apical Meristems of Chenopodium rubrum as a Consequence of Photoperiodic Induction	
SITTE, P.: Plastiden-Metamorphose und Chromoplasten bei Chrysosplenium Plastid Metamorphosis and Chromoplasts in Chrysosplenium	

THEIMER, R. R. and P. HEIDINGER: Control of Particulate Urate Oxidase Activity in Bean Roots by External Nitrogen Supply	360
WATTENDORFF, J.: Ultrahistochemical Reactions of the Suberized Cell Walls in Acorus, Acacia and Larix Ultrahistochemische Reaktionen der suberinisierten Zellwände von Acorus, Acacia	,
und Larix	214
ZINDLER-FRANK, E.: Die Differenzierung von Kristallidioblasten im Dunkeln und bei Hemmung der Glykolsäureoxidase The Differentiation of Crystal Idioblasts in Darkness and under Inhibition of Gly-	
colic Acid Oxidase	313
Kurze Mitteilungen	
BATA, J. and M. NEŠKOVIČ: The Effect of Gibberellic Acid and Kinetin on Chlorophyll Retention in Lemna trisulca L.	86
BIGOT, C.: Obtention de Plantes Entières à Partir de Pédoncules Floraux de Gloxinia hybrida Cultivés in vitro	178
BÜRCKY, K. und H. KAUSS: Veränderung im Gehalt an ATP und ADP in Wurzelspitzen der Mungobohne nach Hellrotbelichtung Change in ATP and ADP Levels of Mung Bean Root Tips after Irradiation with Red	
Light DMITRIEV, A. P. and D. M. GRODZINSKY: Post-Irradiation Sensitization to γ-Rays in the	184
Blue Green Alga, Anacystis nidulans by a Rifamycin Derivative (DMB) which is Active on RNA-directed DNA-Polymerase	
HORAK, O.: Vergleichende Mineralstoff-Analysen an einigen Loranthaceen und deren Wirtspflanzen	
Comparative Analyses on the Mineral Ion Content of some Loranthaceae and their Hosts	461
KOPP, A., U. FELLER und K. H. ERISMANN: Untersuchungen zur Regulation der Stickstoffassimilation von Lemna minor im Übergang von Ammonium- auf Nitrat- bzw. Nitrat- auf Ammoniumernährung unter Photosynthesebedingungen	
Investigations on the Regulation of Nitrogen Assimilation of Lemna minor during the Transition from Ammonia to Nitrate Nutrition and from Nitrate to Ammonia Nutrition during Photosynthesis	456
MATSUMOTO, H. and N. Wakiuchi: Changes in ATP in Cucumber Leaves during Ammonium Toxicity	
McDonald, M. S.: Isolation of Pipecolic Acid from the Tubers of Leaf Virus infected Potato Plants	
PILLAY, D. T. N.: Separation of transfer RNA's from Soybean Cotyledons on Polychlo- rotrifluoroethylene (Plaskon) Supported Reversed-phase Chromatography Columns	172
RATNAMBA, S. P. and R. N. CHOPRA: In vitro Induction of Embryoids from Hypocotyls and Cotyledons of Anethum graveolens Seedlings	452
RUSTAGI, P. N. and N. SANKHLA: Effect of 3',5'-Cyclic Adenosine Monophosphate on Stomatal Opening in Vicia faba L	467
Santarius, K. A.: Seasonal Changes in Plant Membrane Stability as Evidenced by the Heat Sensitivity of Chloroplast Membrane Reactions	448
WAGNER, G. und D. Hess: Haploide, diploide und triploide Pflanzen von Petunia hy- brida aus Pollenkörnern Haploid, diploid and triploid plants of Petunia hybrida from Pollen Grains	273
riapioid, diploid and diploid plants of remina nyoraa rivan	

Buchbesprechungen

	e Flavonol-Aglyka bei Aesculu	s 277
Methylated Flavonols as A		
Bornkamm, R.: Einführung in	die Botanik. Bespr. von K. Be	RGFELD
	ELLIE (Hrsg.): Biological Hydrox	
von H. R. Schütte		376
MILLBORROW, B. V.: Biosynth	nesis and its Control in Plants.	Bespr. v. H. R. Schütte 281
ROBARDS, A. W.: Ultrastruktu	r der pflanzlichen Zelle. Bespr.	von R. Bergfeld 94
SASYKIN, Ju. O.: Antibiotika	als Inhibitoren biochemischer I	Prozesse. Bespr. von G. R.
HARTMANN		
VILLANUEVA, I. R., I. GARCÍA	-Acha, S. Gascón and F. Urui	BURU (Hrsg.): Yeast, Mould
	pr. von H. BINDING	
•		
Autorenverzeichnis		
Autorenverzeichnis		
BALL, E. 326, 339	Hanzely, L. 377	PILLAY, D. T. N. 172, 422
Вата, Ј. 86	Heidinger, P. 360	Роѕкита, Ј. 189, 387
Barlow, P. W. 56	Негм, К. 349	
BECKER, H. 226	Hess, D. 273	Rast, D. 45
BIELAK, B. 387	HOOYMANS, J. J. M. 234	RATNAMBA, S. P. 452
Відот, С. 178	HORAK, O. 461	REBECHINI, H. M. 377
Bruinsma, J. 142, 152	HOVENKAMP-OBBEMA, R.	ROGAN, P. G. 405
Bürcky, K. 184	430, 439	Ruffner, H. 45
Виттом, Ј. 415	Huber, W. 160	Rustagi, P. N. 467
Capesius, I. 266	Kamínek, M. 65, 74	Sankhla, N. 160, 467
Cerff, R. 109	Kass, L. B. 198	SANTARIUS, K. A. 448
Charriere-Ladreix, Y. 95	Kauss, H. 184	SCHLETZ, K. 167
CHERRY, J. H. 422	Коснва, Ј. 415	Seidlová, F. 394
CHOPRA, R. N. 452	Корр, А. 456	SITTE, P. 243
	Ljubešić, N. 296	Sмітн, D. L. 405
DE JONG, A. W. 142, 152	LÜDEMANN, HD. 226	Steegwee, D. 430
Devidé, Z. 296	LÜTTGE, U. 326, 339	
DMITRIEV, A. P. 89	Luštinec, J. 65, 74	TEVINI, M. 349
Döhler, G. 283	E0311NEC, J. 05, 74	THEIMER, R. R. 360
Doy, C. H. 132	Maleszewski, S. 189	
Engage V U 45/	Marschner, H. 307	Urbański, T. 119
Erismann, K. H. 456	Masłowska, H. 119	***
FALTYNOWICZ, M. 387	Masłowski, P. 119	Voskresenskaya, N. P.
Feller, U. 456	Матѕимото, Н. 82	189
Frankiewicz, A. 189	McDonald, M. S. 371	W
2 100 102, 11, 107	MIKULSKA, M. 387	WAGNER, G. 273
GHOUSE, A. K. M. 208	Mix, G. 307	WAKIUCHI, N. 82
Gresshoff, P. M. 132	NI co W/ 1	Wattendorff, J. 214 Wollenweber, E. 277
GRISHINA, G. S. 189	NAGL, W. 1	WPARIEWERA P 207
GROBBELAAR, N. 103	Nešković, M. 86 Nimz, H. 226	Wróblewska, B. 387
GRODZINSKY, D. M. 89	1 1MZ, 11. 220	Yunus, M. 208
GROENEWALD, E. G. 103	Paolillo Jr., D. J. 198	20103, 111. 208
Grundwag, M. 56	PENOT, M. 125	ZINDLER-FRANK, E. 313